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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,974	03/11/2004	Renato B. Slave	81131654(19289)	6278

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EXAMINER	
PILKINGTON, JAMES	
ART UNIT	**PAPER NUMBER**
3682	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/797,974	SLAVE ET AL.	
	Examiner	Art Unit	
	James Pilkington	3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6,8-10,12,13 and 15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6,8-10,12,13 and 15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The amendment to the specification filed 10/23/06 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The cutout has upper and lower edges "which are sufficiently spaced to provide the desired clearance" (pg 2/line 25 of "Amendments to the Specification").

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-4, 6, 8-10, 12, 13 and 15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The applicant states that the bushing is rotatable. Upon the inspection of Figure 1 the examiner doesn't see how that is possible since the rack is angled in the assembly. If the bushing is being rotated clockwise the thicker side of the bushing can't rotate because it will contact the rack housing and if the bushing is being rotated counter-clockwise the thinner side of the

bushing will contact the rack housing. In either case the bushing cannot rotate. Is there some clearance or other aspects of the bushing that are not shown in the drawing that allows the bushing to rotate around the angled rack and rack housing?

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-4, 6, 8-10, 12 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "said gear sections" in lines 20-21. There is insufficient antecedent basis for plural gear sections in the claim.

Re clm 1, it is unclear to the examiner if the nut is engaged with or engaged adjacent to the first end. Clm 1 line 26 states that the nut is "engaged with said bushing at said first end" and later in line 29 states that "the nut is located adjacent to said first end." The phrase "engaged with" means there has to be some overlapping structure between the nut and the bushing and the phrase "adjacent to" means that the nut is next to or near the first end not engaged with. Which one is it?

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-4, 6, 8-10, 12, 13 (as best understood) and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ballester, USP 6,439,337, in view of Murakami, USP 6,769,507 (cited with the first Office Action 7/20/06).

Re clm 1, Ballester discloses a steering mechanism for an automotive vehicle comprising:

- A pinion (600) having a shaft section (is 600) and a gear section (700) and a nose section (112'), said gear section (700) being located between said shaft section (600) and said nose section (112')
- A rack (200) having a gear section coupled with the gear section of the pinion
- A housing (800) containing an inner cylindrical wall (at 100") enclosing at least portions of said pinion (600) and said rack (200)
- A bushing (110) having an outer cylindrical wall concentrically rotatably received within said inner cylindrical wall of said housing (the two contact at 100")
- Said bushing (110) having an inner cylindrical opening (where pinion is inserted), defined by an inner cylindrical wall which is non-concentric (Figure 6 shows the bushing as being non-concentric see 110 verse 110") with respect to said outer cylindrical wall
- Said bushing (110) being rotatable within said housing (800) to alter the position of said pinion with respect to the rack (200) to allow for the

adjustment of the degree of coupling between said gear section (700) of said pinion (600) and said rack (200) (C1/L61-C3/L22)

- Said bushing (110) having a defined first end for receiving and retaining said shaft section (near character 120) of said pinion and a second end for receiving and retaining said nose section (at character 112')
- A nut (111) engaged with the bushing (110) to inhibit rotational movement, the nut located adjacent the first end of the bushing

Ballester does not disclose that the nut is engaged at the first end of the bushing.

Murakami teaches a nut (30) engaged with a bushing (9, screw ring that supports the shaft 12) at a first end (where shaft enters the pinion housing) for the purpose of restraining the pinion (worm) from moving in an axial direction (C 16/L 59-60).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Ballester and provide for the nut to engage the bushing at the first end, as taught by Murakami, for the purpose of restraining the pinion from moving in an axial direction.

Re clm 2, Ballester discloses that the nut (11 in Figure 2) having a threaded inner surface, and the bushing (7 in Figure 2) having a threaded outer surface.

Re clm 3, Ballester discloses the pinion (600) and the bushing (110) are received through an aperture in said nut (111, see Figure 4).

Re clm 4, Ballester discloses that the nut (111) is coupled with said bushing (110) to retain said bushing (110) and pinion (600) within said housing (800).

Re clm 8, Ballester in view of Murakami discloses a retainer (8, figure 2 of Ballester or the L-shaped extension in figure 5 that extends between 118 and the housing) located adjacent to the second end of the bushing (Ballester in view of Murakami results in the nut and the threaded surface to be flipped to the first end and the flange to be at the second end), the retainer configured to prevent axial movement between the bushing (7) and the housing (2).

Re clm 6, Ballester discloses that the nut (111) including a flange (near 100', section extending from the nut see Figure 5) configured to apply a force to the housing (800) and force said housing against said retainer (8 or in the case of Figure 5 the L-shaped extension between 118 and the housing).

Re clm 9, Ballester discloses that the retainer (8 or L-shaped extension of Figure 5) is a ring shaped retainer coupled with the bushing (part of the bushing), and the ring-shaped retainer contacts a surface of the housing (2 or 800).

Re clm 10, Ballester discloses the bushing having a body section (by character 110) with a first diameter and a collar section (by character 120) at its first end with a second diameter larger than the first diameter, the nut positioned adjacent to the collar section.

Re clm 12, Ballester discloses that said cylindrical inner wall of said bushing being surrounded by said non-concentric cylindrical outer wall, and a radius extending from the axis of said cylindrical inner wall, the radial distance between said inner wall and said outer wall defining the bushing wall thickness, and said bushing wall thickness varying along the bushing radius over the circumferences of said bushing walls (see

Figure 6 where Ballester clearly shows that the bushing has a varying radius over the circumferences of said bushing walls).

Re clm 13, a first bearing (116) assembly rotatably coupling the pinion shaft section to said bushing (110) and a second bearing assembly (113) rotatably coupling said nose section of said pinion of said bushing, wherein said first bearing assembly (116) is located adjacent to said bushing first end, and said second bearing assembly is located adjacent to said bushing second end.

Re clm 15, Ballester discloses a steering mechanism for an automotive vehicle comprising:

- A pinion (600) having a shaft section (is 600) and a gear section (700)
- A rack (200) having a gear section coupled with the gear section of the pinion
- A housing (800) containing an inner cylindrical wall (at 100") enclosing at least portions of said pinion (600) and said rack (200)
- A bushing (110) having an outer cylindrical wall concentrically rotatably received within said inner cylindrical wall of said housing (the two contact at 100")
- Said bushing (110) having an inner cylindrical wall defining an opening (where pinion is inserted) for supporting said pinion along the cylindrical axis of said internal opening

- Said inner cylindrical wall being eccentric with respect to said outer cylindrical wall (see Figure 6) and providing varying thicknesses between said eccentric walls
- Said bushing (110) being rotatable within said housing (800) to alter the radial position of said pinion with respect to the cylindrical axis to allow for the adjustment of the degree of coupling between said gear section (700) of said pinion (600) and said rack (200) (C1/L61-C3/L22)
- Said defined opening being located at a first end of said bushing (110) for receiving and retaining said shaft section (near character 120) of said pinion
- A lock device (111) engaged with the bushing (110) and said housing (800, contacts it) to inhibit rotational movement

Ballester does not disclose that the nut is engaged at the first end of the bushing.

Murakami teaches a nut (30) engaged with a bushing (9, screw ring that supports the shaft 12) at a first end (where shaft enters the pinion housing) for the purpose of restraining the pinion (worm) from moving in an axial direction (C 16/L 59-60).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Ballester and provide for the nut to engage the bushing at the first end, as taught by Murakami, for the purpose of restraining the pinion from moving in an axial direction.

Response to Arguments

8. Applicant's arguments with respect to claims 1-4, 6, 8-10, 12, and 15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Pilkington whose telephone number is (571) 272-5052. The examiner can normally be reached on Monday-Friday 8:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JP
1.30.2007

RICHARD RIDLEY
SUPERVISORY PATENT EXAMINER